

**A Summary of
Emergency Response Plans for Avian Influenza/Pandemic Influenza**
Michigan Departments of
Agriculture, Community Health and Natural Resources
and USDA Wildlife Services

2-14-06

Michigan governmental agencies, federal, university, and industry partners are working together to prevent, prepare, and if necessary, respond, and recover from a novel influenza outbreak having the potential to affect humans and/or animals. The surveillance and management roles and responsibilities of each agency have been identified for a unified approach that considers humans, domestic animals, and wildlife. Recently, these partners assembled the Michigan Inter Agency Avian Influenza Work Group to ensure that these efforts were managed with an interdepartmental perspective.

The State of Michigan, Department of Community Health has had a *Pandemic Influenza Plan* in place since 2002. The 2005 version is now part of the *All Hazards Response Plan*, created in 2004 and finalized in 2005.

The *Pandemic Influenza Plan* has been available to Local Health Department planning and emergency preparedness partners on the Health Alert Network (or “HAN”)—a statewide disease alert system for health care providers and public health leaders. The latest version of the Pandemic Flu plan was posted on the HAN in early January, 2006.

We continue to update our plans as new information and resources become available. And we carry out regular preparedness exercises and revise our plans as needed based on the results of those exercises.

The State has also made pandemic influenza information available to the public through the website: www.mdch.gov/influenza and to local public health and health care partners through the Health Alert Network.

Michigan has among the finest public health and animal diagnostic laboratories in the country. The labs continually diagnose illnesses by utilizing the latest techniques to detect microbes.

The State’s ongoing preparedness efforts related to chemical and biological threats have no doubt contributed to preparedness for the emergence of new diseases transmitted from animals to humans. The following information briefly explains each department’s role in avian influenza pandemic flu planning.

STATE PLANS

The Michigan Department of Community Health, All Hazards Response Plan, developed and maintained as required by Act 390, PA of 1976 and as referenced in the Michigan Emergency Management Plan, is approved and current. MDCH staff and contractors follow the systems, assignments, protocols, and procedures contained in the plan when responding to disasters, emergencies or providing supplemental relief assistance in support of local governments and agencies.

The Michigan Emergency Avian Disease Manual was developed through consultation, coordination, and agreement with Michigan's poultry industry (Michigan Allied Poultry Industries, Inc.), the State Veterinarian's Office of the Michigan Department of Agriculture, the United States Department of Agriculture's Animal and Plant Health Inspection Service (USDA/APHIS) Area Veterinarian-In-Charge (AVIC) and Michigan State University (MSU). In the event of an emergency avian disease, implementation of all or part of this plan will be made at the discretion of the State Veterinarian's or USDA/APHIS AVIC Office with consultation and coordination with Michigan's poultry industry. This manual also serves as a guide to prevent the spread of infectious avian diseases as well as to assist in the development of appropriate biosecurity plans in order to prevent such an occurrence.

The DNR Avian Influenza Response Plan is divided into two categories: Surveillance and Response. Early detection and the rapid, accurate diagnosis of disease set the stage for response activities to follow. These are accomplished by surveillance of wild populations to detect sick or dead birds through diagnostic testing. Once surveillance has provided a basic understanding of the distribution of the disease and its magnitude, specific response activities can be formulated. These are used to control the spread of disease, prevent exposure of susceptible but as yet unexposed hosts, and, where possible and desirable, eradicate the disease.

The State of Michigan Risk Communication Plan for H5N1 Highly Pathogenic Avian Influenza can also be broadly divided into two categories: Surveillance and Response. Communications and education activities will change tone and direction depending on circumstance, but are active, ongoing functions related to both surveillance and response modes. Most media accounts work to draw basic public understanding of the disease by linking it with Pandemic Influenza. Continual communication and education activities, directed at lawmakers, key constituency groups, the media, and the general public will raise public awareness of AI, increase understanding of the disease, and help ensure broad-based public support in the event that the state moves from a surveillance mode to a response mode.

(For full emergency response plans see Michigan AI Emergency Response Plans binder or visit <http://www.Michigan.gov/emergingdiseases>)

FEDERAL PLANS

The ability to efficiently control the spread of a highly infectious, exotic disease such as Asian H5N1, is dependent upon the capacity to rapidly detect the pathogen if introduced. For this reason, a National Early Detection System for Asian H5N1 in Wild Migratory Birds is not only prudent, it is necessary. Effective implementation of this National Detection System will require decentralized planning and execution at regional and state levels, combined with centralized coordination to ensure national level analysis of surveillance data for risk assessment. It also involves a partnership between public and private interests and includes efforts by Federal, State, and local governments as well as nongovernmental organizations, universities, and other interest groups.

Coordinating groups such as the four Flyway Councils already exist to deal with issues related to migratory bird management on a broad geographic scale. These Councils include representation from each of the States in their respective bird flyways as well as the U.S. Fish and Wildlife Service. Therefore, the planning and execution of local and regional Asian H5N1 early detection efforts will best be accomplished by the States in collaboration with Federal agencies. States and flyways are exposed to varying degrees of threat from Asian H5N1. Each has unique

circumstances that will shape the direction and intensity of its early detection efforts. Local USDA offices, both Veterinary Services (VS) and Wildlife Services (WS) will provide support, surveillance and response services at infected farms.

Consequently, gaps among regional programs may emerge over time. Centralized coordination will evaluate the effectiveness of state and regional efforts, allowing for prioritization of available federal resources.

Integration of this National Early Detection System with similar influenza surveillance systems in other species (e.g., domestic, feral, zoo) as well as humans will also require centralized coordination. Surveillance data from all of these systems will be incorporated into national risk assessments, and preparedness and response planning efforts.

(For full emergency response plans see Michigan AI Emergency Response Plans binder or visit <http://www.Michigan.gov/emergingdiseases>)

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FAQs on Avian Influenza and “bird flu” for Michigan Residents

What is avian influenza and “bird flu”?

Like humans, birds have naturally occurring influenza (flu) viruses. There are numerous subtypes (144) of avian influenza viruses that are carried by wild bird species throughout the world, but these viruses do not cause disease in these birds. Occasionally, some of these viruses can infect domestic birds such as poultry, but typically we do not see direct transmission of avian influenza viruses from birds to humans. “Bird flu” is a non-scientific term that refers to a specific virus (H5N1) that has been present in domestic birds in Asia since 1997. This particular virus has been associated with human infections and deaths.

What types of birds does avian influenza infect?

Naturally occurring avian influenza viruses in wild birds are generally associated with waterfowl (ducks and geese), gulls, and some species of shore birds and typically do not cause illness in these birds. The viruses occasionally “jump” from these wild birds to domestic birds such as chickens, quail and turkeys. In some cases these viruses can cause severe disease in domestic birds, but in general this requires viral adaptations via genetic mutations that occur over time in domestic bird populations. This is the case with the highly pathogenic H5N1 virus (“bird flu”) which has been circulating in domestic birds in Asia at least since 1997. Although this virus probably originated in wild birds, it has mutated and adapted to domestic poultry.

Do we have avian influenza viruses and “bird flu” in the United States?

While the H5N1 strain of avian influenza currently circulating in the Eastern Hemisphere is not present in North America or the Western Hemisphere, yes, avian influenza viruses are found in wild bird populations in North America and occasionally infect domestic poultry. For example, in 2004 outbreaks of avian influenza in US poultry occurred in the New England states and Texas, and were traced to birds from live bird markets. These outbreaks were not caused by the same “bird flu” virus (H5N1) that is currently circulating in Asia. The U.S. outbreaks were quickly contained and there was no impact on human health. Michigan surveillance did detect a low pathogenic H5N1 virus in a domestic poultry flock in 2002. The flock was promptly euthanized and there was no human impact. There is no evidence that the “bird flu” (high pathogenic H5N1) is present anywhere in North America.

Do we have avian influenza viruses in Michigan?

Avian influenza viruses have occasionally been isolated from wild birds in Michigan, and we manage outbreaks of low pathogenic strains that occur infrequently in domestic poultry.

What is unique about the H5N1 virus currently circulating in Asia?

The H5N1 virus has been uniquely difficult to control in Southeast Asian poultry flocks. Despite the depopulation (euthanasia) of millions of domestic birds in affected countries, the virus continues to spread to other domestic birds. In addition, the H5N1 virus spreading among birds in Asia and the Middle East has caused illness among 160 people and resulted in 85 human deaths (as of February 1, 2006). The infection of humans with an H5 virus has been rare; the influenza viruses that normally infect humans are H1 and H3 subtypes, specifically H1N1, H1N2, and H3N2. Another unique aspect of the H5N1 (“bird flu”) virus is that it has killed wild birds. This is very rare, and only once before the present “bird flu” outbreak has avian influenza killed wild birds. It is not known whether these infections are from wild bird contact with

infected poultry or if it is actually being transmitted by wild birds. Numerous studies are ongoing to help answer this question.

How have people gotten infected with the H5N1 virus?

Infected birds shed large numbers of virus in their saliva, nasal secretions and feces. Human illness has resulted from direct contact with domestic birds and their feces, blood or with environments contaminated with infected bird feces. In areas that have had human illness with the H5N1 virus it is fairly common to have chickens roaming free and potentially contaminating the environment. Children who play in a contaminated environment are at risk of infection, and some documented cases are believed to trace to this means of exposure. In addition, because families often depend upon these birds for income and sustenance, they often butcher sick birds and consume them. Hand butchering sick birds exposes people to high levels of the virus. Sustained human to human spread of the H5N1 virus has not occurred. All human cases of H5N1 infections have been restricted to Asia and the Middle East.

Does the virus travel easily from birds to humans?

No, the number of people that have become ill with bird flu is very small considering the size and duration of the outbreak among domestic birds and the large number of persons who have been exposed.

How is an avian influenza outbreak in birds different from an influenza pandemic?

An influenza outbreak among birds occurs when the virus causes serious illness or death and is spread from bird to bird. If the avian virus is contagious to people, then humans may inadvertently become infected due to exposure to sick birds. An influenza pandemic can occur when the avian virus infecting humans changes and then spreads easily from person to person. This results in an epidemic over a wide geographical area, usually over more than one continent, or a pandemic.

What is the risk of the H5N1 virus currently circulating in Asia causing a worldwide pandemic?

Flu viruses are constantly changing. The H5N1 virus could become a pandemic strain in one of two ways: 1) it could exchange genetic material from a human flu virus and acquire the ability to easily transmit between people; or 2) it could mutate over time and adapt to human cells. This second process would likely happen over the course of several years.

How is H5N1 spreading in Asia?

In birds, the H5N1 virus spreads through contact between an uninfected bird and an infected bird's saliva, nasal secretions, or feces. The movement of infected poultry, contaminated poultry equipment, or people with virus-contaminated clothing or shoes results in the international movement of the H5N1 virus. Historically, the movement of poultry-adapted avian influenza strains does not involve wild birds. Recently, there has been some evidence that migratory waterfowl may have spread the Asian H5N1 "bird flu" virus to domestic poultry across national borders, but the mechanism of this spread is not yet fully understood and it is unknown if this virus will remain in wild bird populations once they are infected.

What is the risk of H5N1 arriving in Michigan?

The risk of H5N1 infection among birds in Michigan is very low, but we are preparing in the event of its arrival. No poultry or poultry products from countries affected with avian influenza are legally allowed to enter the U.S. In addition, there is little overlap of migratory pathways between any wild birds in Michigan and Asia. Travelers from affected countries could possibly introduce the virus to the United States through inadvertent or intentional movement of the H5N1 virus or infected birds.

If I see a dead bird in Michigan, is it likely to have bird flu?

No. There is surveillance for avian influenza among shorebirds, waterfowl, and poultry in Michigan, and this should detect the “bird flu” virus if present. Other wild birds such as songbirds, crows, or sparrows are not generally infected with avian influenza viruses, so it is not beneficial to include them in a surveillance program. Expanded wild bird disease surveillance across the U.S. is underway. If there is a mass die-off of wild birds, citizens may contact the DNR at 1-800-292-7800.

What can I do to protect myself from bird flu?

Travelers to affected countries are advised to avoid poultry farms and live bird markets during their visit. In addition, wild waterfowl and shorebirds or any bird showing signs of disease should be avoided in these countries. Although birds in Michigan are unlikely to be infected with bird flu, it is always a good idea to avoid contact with birds showing signs of disease. People who raise waterfowl or poultry should immediately report any suspicious disease in their birds to their flock supervisor or veterinarian. Those with pet birds, such as parrots, cockatiels, love birds or budgies should not worry about their pets getting “bird flu” if they have not been out of the country or in contact with birds from other countries.

Preventative measures like hand washing, staying home when sick, getting rest, eating well and getting your annual seasonal flu vaccine are ways to stay healthy and will help prevent infections.

Will the human seasonal influenza virus vaccine protect me against bird flu?

No, the human influenza vaccine currently available does not protect against bird flu viruses. Clinical trials are underway now for a human vaccine to protect against the “bird flu”.

Should I be stockpiling Tamiflu® or other antivirals to protect myself against bird flu or pandemic influenza?

No, it is not recommended that citizens stockpile antiviral drugs to protect against “bird flu” or pandemic influenza. The antivirals have limited usefulness in the prevention of flu, and the virus is capable of becoming resistant over time. Stockpiling Tamiflu® or other antiviral medications will also reduce already-limited supplies for the elderly and others at high risk for contracting seasonal influenza. Consequently, Tamiflu® and related drugs should only be administered under the guidance of a health care provider.

How is Michigan preparing for bird flu and a potential pandemic?

The Michigan Departments of Community Health, Agriculture, and Natural Resources; USDA WS and VS; and MSU are taking part in a number of prevention and preparedness activities, which include:

- The MSU Diagnostic Center for Population and Animal Health (DCPAH) Laboratory assists with routine surveillance for H5 or H7 viruses in Michigan poultry; and works collaboratively with USDA's National Veterinary Services Laboratory to isolate and diagnose flu strains.
- The Michigan Department of Agriculture and the Michigan poultry industry have co-developed a Michigan Avian Diseases Emergency Response Plan which includes provisions for avian influenza surveillance and response (as well as other poultry diseases).
- The Michigan Department of Natural Resources' Wildlife Disease Laboratory is preparing for avian influenza surveillance and response activities involving wild bird and domestic poultry; and works collaboratively with MSU's DCPAH.
- The State Department of Community Health Bureau of Laboratories works collaboratively with the Centers for Disease Control to isolate and diagnose novel flu strains.
- Providers in the State of Michigan participate in the Influenza Sentinel Provider Surveillance Network.
- Michigan has action plans for both Highly Pathogenic Avian Influenza and Pandemic Influenza. These plans provide the framework for state and local activities in the event of an outbreak in Michigan.
- Table top exercises including several state agencies and local public health have been/are being conducted to evaluate Michigan's preparedness for a bird flu outbreak.
- Michigan State University, through Extension Services and the Health Risk Communications Center is a partner in risk messaging.

For more FAQs on bird flu in animals and humans:

<http://www.pandemicflu.gov>

<http://www.cdc.gov/flu/avian/>

http://www.aphis.usda.gov/lpa/pubs/fsheet_faq_notice/faq_ahai.html

http://www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html

We would like to thank the State of Georgia for the above information which was adapted for Michigan from the Georgia Division of Public Health in partnership with the Georgia Department of Agriculture Office of the State Veterinarian, the U.S. Department of Agriculture Veterinary Services Georgia Area Office, and the Southeastern Cooperative Wildlife Disease Study at the University of Georgia.